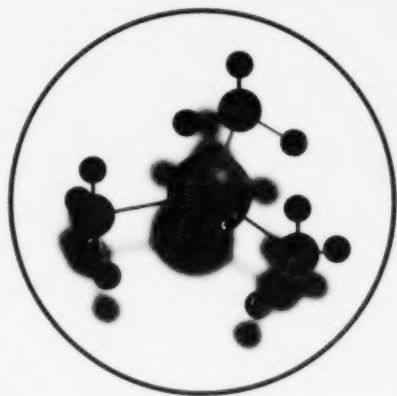
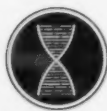
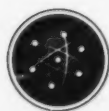




Hamilton Biotechnology Profile



2002

Elements

that create an appealing environment

World Class Science

**Unrivalled Tax
Advantages**

Hamilton...

A premier location for
future biotechnology
developments

**Superior
Quality of Life**

**Globally
Connected**

Research and Development: Pickard & Laws Consulting Group (905) 824-2446

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Photography: Dennis R. McGreal

Hamilton...

an emerging centre for biotechnology

The 21st century will be the century of biotechnology. An aging population will see health enhanced and quality of life increased through synergistic advances in science and technology.

This profile highlights how the City of Hamilton is poised to make a significant contribution to the bioscience revolution by:

- Describing the significance of biotechnology and its growth in Canada
- Detailing Hamilton's advantages as an emerging centre of biotechnology excellence
- Providing information about joining this vibrant emerging industrial cluster in Hamilton

Today a new industrial revolution is underway...

Although we tend to think of biotechnology as a new economic sector, its roots go back centuries to the time when beer was first fermented. Indeed, early biotechnology was almost exclusively focused on fermentation techniques to produce drinks, food and fuel. Around the time of World War I, these techniques were used to manufacture solvents.

Second generation biotechnology emerged after World War II. It involved the integration of microbiology, biochemistry and chemical engineering for large scale fermentation, sewage treatment, and for applications in the chemical and pharmaceutical industries.

Modern biotechnology is in its early stages. It grew out of molecular biology and genetic engineering. The 1973 breakthrough discovery of recombinant DNA has become the platform for research in cloning, genomics and proteomics.

Scientists can now manipulate DNA, the fundamental building block of life. Early results range from the manufacture of genetically engineered drugs to the cloning of Dolly, the sheep. With the completion of the initial sequencing and draft of the human genome, the next step will be the identification of new kinds of drugs. It is expected that the number of drugs identified, tested and commercialized will increase six-fold over the next 20 years.

Within the next 15 to 20 years these new technologies may allow doctors to test individual genetic profiles against a group of drugs available for a specific condition in order to identify the most effective treatment. The widespread adoption of these technological advances is expected to transform drug discovery into a much faster and more efficient process.

As remarkable as these achievements are, they are insignificant compared to what is still to come. In this new industrial revolution, technologies are changing so rapidly that no knows where future profits will be made...

"Microelectronics, computers, telecommunications, designer materials, robotics and biotechnology are transforming all facets of life — what we do and how we do it. Biotechnology is changing the characteristics of life itself. New plants and animals with different characteristics are being built."

Lester Thurow
Building Wealth
HarperCollins Publisher
New York, 1999

"Knowledge and information are being produced today like cars and steel were produced a hundred years ago. Those like Bill Gates who know how to produce knowledge and information better than others reap the rewards, just as those who knew how to produce cars and steel one hundred years ago became magnates of that era."

Joseph Stiglitz
2001 Nobel Laureate in Economics
Chief Economist
World Bank

Canada

has a small but growing biotechnology sector...

**"We have a more dynamic
biotechnology industry than
Europe. Canada has more
biotech companies on a per
capita basis than any other
place in the world."**

Dr. Calvin Stiller
Chairman,
Canadian Medical Discoveries Fund
2001

- Canada has 358 biotechnology firms generating \$1.9 billion from activities directly related to biotechnology. More than 17,000 biotech products are in development or on the market.
- Biotech revenues have been dramatically increasing year over year and are expected to more than double to \$5 billion by 2002.
- Canadian biotechnology efforts are concentrated in human health. This is significant because 90% of global biotechnology products are health-related.
- Canadian biotechnology is poised to make a significant economic contribution. Because of longer lead-time required by biotech innovations, 35% of Canadian firms are actively investing in future opportunities, that is, in biotechnology areas not currently generating revenue.
- Canadian biotechnology is built on world-class science. Canada is a world leader in molecular biology and medical genetics and has an excellent infrastructure for conducting clinical trials. Canadians discovered or played a role in discovering the genetic cause of eight of the first 42 single-gene diseases whose genetic defect has been discovered.
- Canada is a world leader in the amount of higher education sector money it spends on research and development. A recent conference board study puts Canada third behind Australia and Italy in the percentage of gross expenditures in R & D in the sector.

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Hamilton

the perfect location for the growth of a biotech cluster...

How does any city become a focal point for the development of sophisticated technology and knowledge workers? The answer lies in the combination of factors conducive to the development of biotechnology and other entrepreneurial clusters. Hamilton rates very highly on these indicators.

Factors Necessary for Cluster Development	Hamilton's Assets
Accessible technology – access to basic and applied research, commercialization and technical assistance	• McMaster University – the most innovative medical-doctoral university in Canada • World class science in heart, lung, immunology and clinical research • Highest ratio of research funding to operating budget among universities in Canada • Dedicated technology transfer office
Adaptable human resources – local institutions and programs that produce graduates with the requisite workforce capabilities	• McMaster University and Mohawk College of Applied Arts and Technology • More life science graduates per capita in Ontario than most US states • 17,000 Ontario graduates per year in mathematics, engineering, sciences and health professions
Available financing – access to institutions that provide capital to support both development and expansion	• Government research and infrastructure funds available to university and industry partnerships • Access to 10+ venture capital firms targeted to science, biotechnology and pharmaceuticals
Adequate physical infrastructure – facilities, roads, and other distribution networks	• Within a 500-mile radius, major highways connect to 120 million people • 24/7 cargo and passenger airport • Incubator and small business enterprise centre
Advanced communications – availability of high speed/broadband services	• A "wired" city – fibre optic cable provided downtown, to university, college and hospitals
Acceptable business climate – tax, regulatory and administrative requirements that facilitate development and growth	• Tax credits unrivaled among G-7 countries • Lower tax rates and business costs than in the US • Development Fee Free Zone in downtown Hamilton
Achievable quality of life – affordable housing, adequate health care, and access to a range of recreational and cultural activities	• Hamilton is a consistent award winner for environmental commitment • Everything available—natural beauty, recreation, arts, culture • Lower house prices than in Toronto



A detailed look

at Hamilton's assets...

Well-positioned to be part of a new industrial revolution

70% of start-up biotech companies are created from science developed at universities.

Ontario Biotech Task Force Report, 1998

McMaster University's commitment to research has earned it the highest ratio of research funding to operating budgets of any Canadian university.

Industrial leaders such as Dofasco, Bell Canada, General Motors of Canada, Pasteur Merieux Connaught, Siemens Westinghouse, Uniroyal Chemical, 3M of Canada and Dow Chemical Canada have turned to McMaster University researchers to meet their R & D needs.

McMaster is ranked No. 6 in Canada in direct research funding and is one of 10 universities to top the \$100 million mark in sponsored research income in 2000.

Accessible Technology

Research universities power the knowledge economy just as electricity powered the industrial revolution:

- Producing basic research in science and technology
- Educating the workforce that will sustain knowledge industries
- Fostering and participating in an entrepreneurial culture that is essential to the development of new industries based on knowledge

Founded in 1887, McMaster University is the cornerstone for research in Hamilton, with 38 research centres, institutes and facilities ranging from the Centre for Gene Therapeutics to the Centre for the Evaluation of Medicines.

The Maclean's Magazine Survey of Canadian Universities has consistently ranked McMaster University as the most innovative medical-doctoral university in Canada.

The Institute for Scientific Information rates research institutions by number of citations, and over the past 10 years has ranked McMaster University as:

- 2nd in the world for heart and lung research
- 1st in Canada in immunology research
- 1st in Canada in clinical research

Science Watch has also ranked McMaster University as first among Canadian universities in clinical medicine.

Researchers in the Faculty of Health Sciences span the spectrum from curiosity-driven basic science at the laboratory research bench to clinical research at the patient's bedside. They are blazing new trails in the prevention and treatment of some of the most costly and debilitating conditions facing Canadians. They are supported by prestigious national and international funding agencies, foundations and private sector partners who contribute almost \$100 million a year to those endeavours. Research priorities include blood disorders, heart disease, cancer, stroke, the development of gene-based therapies to treat cancer, inflammatory and infectious diseases and inflammation in the gastro-intestinal tract and lung.

McMaster University discoveries have had a direct influence on many treatments commonly used today. Its researchers:

- Are global leaders in developing antithrombotic treatments for venous thromboembolism
- Introduced aspirin and other antithrombotics to prevent heart attacks and strokes
- Are developing cancer treatments that mobilize the body's own immune system
- Pioneered bone marrow transplants using unrelated donors
- Diagnosed and treated ulcers caused by bacteria, previously thought to be caused by stress
- Designed revolutionary treatments of childhood and adult asthma including a new delivery system for inhalers

It is in the area of research contracts where McMaster University has seen a dramatic increase over the last decade. The university is committed to putting its research to work for business and industry with its dedicated technology transfer operation that helps researchers transform their discoveries into commercial products to make a profit.

Adaptable

Human Resources

McMaster University has 20,000 undergraduate and graduate students taking 141 undergraduate programs, 36 master's programs and 28 doctoral programs. Ninety-five percent of its 1200 member faculty have PhDs and 87% of its undergraduate students complete their degrees within one year of their expected graduation date. Because of its quality, the university has attracted an international student body and now has more than 100,000 alumni in 125 countries. Its major Faculties include Business, Engineering, Health Sciences, Humanities, Science and Social Sciences.

It provides outstanding training opportunities by integrating disciplines to respond to economic needs. For example, McMaster is the only university to offer combined programs in chemical and bioengineering, and chemical life sciences. McMaster believes that educational programs that link biology, engineering and biochemistry are the key to Canada's continuing prosperity.

Another valuable source for skilled labour in the Hamilton area is Mohawk College of Applied Arts and Technology. This college has been a pioneer in cooperative education ensuring that its students hit the road running when they graduate. There are 12,000 students in full-time study and 60,000 studying part-time. Its Faculties include Business, Continuing Education, Engineering Technology, Health Sciences and Human Services.

In addition to the resources in Hamilton, the city is located within an hour's drive of 8 other universities in southern Ontario including the University of Toronto, the country's largest and most research-focused.

Hamilton is one of Canada's most ethnically diverse cities, with the third largest proportion of immigrant residents after Toronto and Vancouver. This translates into a labour force with a variety of language skills including English, Italian, Portuguese, Spanish, French, Polish, Greek, Chinese (Cantonese and Mandarin), Ukrainian, Croatian and Vietnamese.

The majority of the world's leading biomedical companies are situated in Ontario.

Ontario graduates more students per capita in life sciences than most US states.

The Biotechnology Human Resources Council (www.bhrc.ca/english)

provides access to a benchmark study designed to forecast HR demand in critical areas and a further study providing comprehensive data on compensation and benefits.



Business

Financing Opportunities

Toronto, a one hour drive from Hamilton, is the fourth largest financial centre in North America, including major offices for Canada's 6 domestic banks, 90% of foreign banks and almost all the top rated investment dealers.

Private sector funding sources are available for both start-up and expanding biotechnology firms through venture capital firms that target science, pharmaceutical and biotechnology firms.

(Please refer to the inside back cover for a quick reference guide to Financial Resources in Hamilton.)

Government

Support Programs

The governments of Ontario and Canada have recognized the increasing importance of the biotechnology sector to the economic growth of the country and to the creation of highly skilled jobs. It supports this industry and its key research and development through a number of programs.

(For a listing of Government Programs, please refer to the inside back cover.)



Adequate Physical Infrastructure

Greater Hamilton is located within a 500-mile radius of 120 million people in the North American marketplace.

A superb transportation network of major highways and arterial roads promotes easy access for trucks within the Greater Hamilton area and beyond. Direct travel to Toronto and the US via Buffalo is just one hour away on toll-free highways.

The John C. Munro International Airport, 20 minutes south of downtown Hamilton, is a privately managed airport open for business 24 hours a day, seven days a week. Because of its location and its operating hours, it is Canada's premier international cargo facility. As Westjet and Air Canada make more use of this airport, its passenger capabilities continue to expand. The airport has ISO 9002 status, one of only two airports in Canada to attain such a level of excellence and international recognition.

The Hamilton Incubator of Technology (HIT) is a 40,000 sq. ft. regionally operated modern business incubator available to biotechnology companies. The Hamilton Small Business Enterprise Centre provides information and tools entrepreneurs need to grow their businesses. It is a one-stop source for business information, guidance and professional advice on starting and running a successful business.



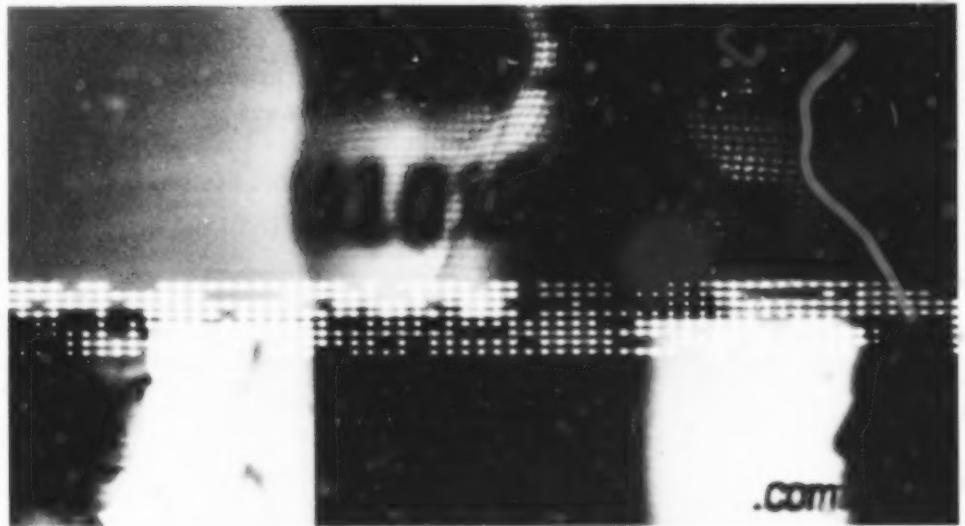
Advanced Communications

"The OECD noted that Canada is second only to South Korea when it comes to the penetration of high speed Internet access among its population. The United States is fourth."

Globe and Mail, Nov. 26, 2001

Hamilton is a "wired" city, with extensive fibre optic cabling throughout the downtown core and extending to all quadrants of the Hamilton area including industrial lands, the Port of Hamilton, Mohawk College, McMaster University, all major hospitals and the airport.

According to a recent study by the Hamilton Chamber of Commerce, 98% of Hamilton companies have personal computers, 90% have access to the Internet, and 3 out of 4 local firms has a Web site.



Attractive Business Climate

Canada and specifically Ontario is open for business!

Canada provides tax incentives unrivaled by any G-7 country.

- 100% deduction for qualified R & D expenditures
- 20% investment tax credit on R & D expenditures carried out by universities and other research institutions to apply against income
- Provincial super-allowance of between 25 and 52.5% on taxable income

Ontario New Technology Tax Incentive is an immediate 100% deduction of the eligible cost of acquiring intellectual property (know-how, techniques, processes or formulas) for Ontario-based businesses.

Ontario Research Employee Stock Option Deduction eliminates capital gains tax on the first Can\$100,000 of the taxable portion of stock option benefits for employees of R & D companies.

Tax rates are not the only advantage in Canada:

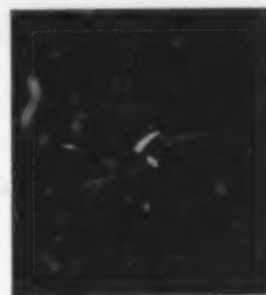
- Supportive regulatory environment... Canada is one of 90 countries that has signed the Paris Convention for the Protection of Intellectual Property. In addition, there is 20-year patent protection for pharmaceuticals before generic copies can be made.
- Promotion of commercialization of innovations... The federal government promotes commercialization through the Networks of Centres of Excellence (NCE), a program that links academic and industry researchers. Since 1994, five biotechnology NCEs have spun out 33 new companies to commercialize new technologies.
- Low business costs... A 2002 KPMG comparison of business costs in North America, Europe and Japan found that Ontario biomedical locations are more cost effective overall than their US, European and Japanese counterparts. This continues a four-year trend of competitive advantage for Ontario.

A company spending \$100 on R & D in Canada can earn an offsetting tax credit that would reduce the cost by almost two-thirds to \$34.45.

The combined federal and provincial tax rate for manufacturers is 10 percentage points less than the average US rate.

Unlike in the U.S., Ontario companies can earn a tax credit for every dollar they spend on eligible R & D including capital equipment and overhead.

- Canada has a clear advantage over the US in cost of construction and operation of new facilities.
- The 2002 KPMG study on cost competitiveness compared location-sensitive cost factors in nine countries and 86 different cities. Hamilton has a 14.5% cost advantage over US locations.
- Hamilton's "development fee free zone" approach means that businesses opening up in downtown Hamilton are exempt from a host of otherwise costly start-up business fees, which makes the city an attractive venue for new businesses.



Quality of Life

Hamilton's housing prices compare very favourably with Toronto's. An average 3 bedroom-detached house in Hamilton costs \$205,000 while the same house in Toronto costs \$260,000. Hamilton's house prices are \$20,000 less than the average for the province of Ontario.

Within its boundaries Hamilton has attractions for all tastes and preferences: the Royal Botanical Gardens, the Bruce Trail, Cootes Paradise, West Heritage Village, the Art Gallery, the Ronald V. Joyce Centre for the Performing Arts, the Convention Centre, Copps Coliseum and the Canadian Football Hall of Fame.

Hamilton consistently gets an A+ on quality of life indicators. Over the past seven years, it has won ten international awards and recognition for its commitment to the environment and sustainable communities.

With 24 Conservation Areas within the region and its proximity to the Niagara Escarpment, Hamilton is a haven for those who enjoy outdoor activities. The Bruce Trail, the oldest and longest in the country, is a 768-kilometre hiking trail that winds along the Niagara Escarpment. The Lake Ontario Waterfront Trail and the Trans Canada Trail are but two of dozens of hiking trails in Hamilton.

The cultural arts are also alive and well in Hamilton with Opera Hamilton, the Hamilton Philharmonic Orchestra and Theatre Aquarius. Symphony Hamilton is beginning its 25th season and the Hamilton Theatre its 40th season.

In the past ten years, downtown Hamilton has undergone many changes that combine new projects with its heritage. The coliseum, the convention centre and Hamilton Place blend with 19th century buildings. Hamilton's downtown core has been transformed to restore the old architecture and enhance it with the new. Quaint ethnic restaurants, cafes and art galleries reflect Hamilton's diversity.

Ancaster, part of the new City of Hamilton, provides the tranquility of rural and small-town living with excellent opportunities for business and industrial development. Dundas is one of the most picturesque locations in Ontario. The area has been in existence for over 100 years and combines old-world charm with new-world technology. Stoney Creek is a blend of the old and the new, but its main asset is its proximity to Lake Ontario and its beaches and recreational facilities.



Hamilton is a haven for those who enjoy outdoor activities.



Hamilton's

Biotechnology Engines

"The underpinning of biotechnology is good science. Canadian science is excellent – we outperform on any measured basis."

Dr. Calvin Stiller, Chairman, Canadian Medical Discoveries Fund

Biotechnology knowledge generation in Hamilton is:

- Concentrated in three research institutes and the Faculties of Health Sciences, Science and Engineering at McMaster University
- Built on transdisciplinary research rather than having the traditional disease focus
- Premised on the link between the "bench and the bedside"

Research locations	
McMaster University – Faculty of Health Sciences – Faculties of Science and Engineering	• Institute for Molecular Medicine and Health • Antimicrobial Research Centre • High Throughput Screening Facility • Centre for Gene Therapeutics • Brockhouse Institute for Materials Research • McMaster Manufacturing Research Institute • Photonics • Information Technology • Nanotechnology
Hamilton Health Sciences	• Henderson Research Centre • Program in Experimental Thrombosis and Atherosclerosis • Clinical Trials Methodology Group • Program in Preventive Cardiology and Therapeutics • Program in Clinical Thromboembolism • Centre for the Study of Children at Risk
St. Joseph's Healthcare	• Father Sean O'Sullivan Research Centre • Firestone Institute for Respiratory Health • Centre for Evaluation of Medicines • Centre for Minimal Access Surgery • Brain-Body Institute
Hamilton Regional Cancer Centre	• Clinical Trials Department • Part of U.S. National Cancer Institute Consortium • Research program in experimental therapeutics and translational research



Transdisciplinary strengths

- Drug discovery and validation – combining basic and clinical research to identify and promote optimal drug therapies
- Pharmacoeconomics – combining drug costing and evaluation to shape therapeutic practices and influence public policy
- Clinical trials – in cardiovascular, cancer, and intensive care management to ensure that the most effective treatment modalities are transferred from the “bench” to the “bedside”
- Nanobiotechnology, biosynthesis and other interfaces between biology and engineering – leveraging the synergy between two important knowledge bases to develop tools to improve and maintain health

Research “bench” accomplishments of Hamilton researchers

- Research on heparin for the treatment of blood clots
- Research on warfarin for the treatment of strokes
- Major study on aspirin demonstrating its effectiveness in preventing heart attack and stroke
- Developed new delivery system for asthma inhalers
- Developed new class of anti-thrombotic agents safer and more effective than traditional drugs
- Developing cancer treatments that mobilize the body’s own immune system
- Pioneered bone marrow transplants using unrelated donors

Hamilton’s researchers believe their “bench to bedside” focus is critical to the development of new knowledge.

The bedside application, notably...

- Research on decision aids to enhance communication between women with breast cancer and their physicians
- Development of chemotherapy regimens administered postoperatively to reduce the risk of cancer recurrence in women with early breast cancer
- Research that demonstrated the effectiveness of treating deep vein thrombosis of the legs at home which has revolutionized the treatment of such patients
- Research on inflammatory substances involved in rejection will result in longer lasting organ transplants and better quality of life for transplant recipients
- Research on COX-2 drugs for arthritis has increased treatment options for millions of arthritis sufferers
- New technique for diagnosing and monitoring asthma through sputum analysis has improved treatment and reduced patient discomfort and risk from more invasive procedures

Hamilton's

Multidisciplinary Research Team



Dr. Paul O'Byrne

Director, Firestone Institute of Respiratory Health, St. Joseph's Healthcare
Chair of Medicine and the Moran Campbell Chair in Respiratory Medicine, McMaster University

Dr. O'Byrne is world-renowned for his research on asthma that is the result of allergies. His current research interests continue to focus on the mechanisms and treatment of asthma, with particular reference to the role of environmental allergens and the mechanisms by which these cause airway inflammation.



Dr. Frederick Hargreave

Professor, Department of Medicine, McMaster University
Researcher, Firestone Institute of Respiratory Health, St. Joseph's Healthcare

Dr. Hargreave is internationally acclaimed for his ground-breaking research into airway inflammation in asthma. His team has repeatedly developed new diagnostic tests for measuring inflammation in asthma as well as chronic bronchitis and chronic cough. The most recent of these tests, which has become accepted world-wide as the gold standard for measurement, allows detailed cellular analysis of sputum without an invasive procedure. Researchers around the world have adopted this technique in their own research.



Dr. Mitchell Levine

Associate Professor, Department of Clinical Epidemiology and Biostatistics,
McMaster University
Director, Centre for Evaluation of Medicines, St. Joseph's Healthcare

Dr. Levine's research activities focus on the assessment of prescription drug use in the community and methods for promoting cost-effective drug therapy. His research has influenced the development of prescribing guidelines and the distribution of evidence-based prescribing information to primary care physicians.



Dr. Stuart MacLeod

Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University
Professor, Department of Pediatrics, Faculty of Health Sciences, McMaster University
Founding Director, Father Sean O'Sullivan Research Centre, St. Joseph's Healthcare

Dr. MacLeod's scientific interests are in improving the understanding of the determinants of drug disposition and action. In particular his research has been directed at discovering the multitude of factors that influence optimal therapeutic drug use.



Dr. Bernard O'Brien

Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University
Associate, Centre for Health Economics and Policy Analysis
Associate Director, Centre for Evaluation of Medicines, St. Joseph's Healthcare

Dr. O'Brien is a health economist whose main research interests include: applying methods of economic evaluation to new therapeutic interventions, particularly in the context of clinical trials; decision analysis and allied mathematical modeling; cost benefit analysis and monetary evaluation techniques; and pharmaceutical policy analysis.





Dr. Gerry Wright

Associate Professor and Chair, Department of Biochemistry, McMaster University

Dr. Wright is interested in how enzymes produced by a type of bacteria found in the gut enable the organism to outwit such compounds as gentamicin and vancomycin, and other widely used antibiotics. His research is focused on developing new treatments for the growing problem of fungus infections in human beings. For his pioneering work in infectious diseases, he was the recipient of the prestigious Polanyi Prize.



Dr. Jack Hirsh

Director, Henderson Research Centre

Professor Emeritus, Department of Medicine, McMaster University

Dr. Hirsh has long-standing interests in clinical and basic research in thrombosis and atherosclerosis. He has trained many clinical scientists, many of whom have left to establish their own thrombosis programs at universities in Canada, the US and Australia.



Dr. Jeffrey Weitz

Professor, Department of Medicine, McMaster University

Dr. Weitz is the Director of the Experimental Thrombosis and Atherosclerosis Program. His research has stimulated the development of new drugs to treat thrombosis, some of which are already being used in clinical practice.



Dr. Salim Yusuf

Professor, Departments of Medicine and Clinical Epidemiology and Biostatistics, McMaster University

Director, Division of Cardiology

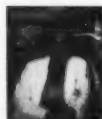
Dr. Yusuf is the Director of the Preventive Cardiology and Therapeutics Program. He has been the recipient of several international awards for his research contributions and has published several landmark articles on meta-analysis. His interests are in the areas of thrombolysis and other treatments for acute myocardial infarction, management of unstable angina, prevention of vascular diseases, congestive heart failure and meta-analytic approaches to the evaluation of clinical trials.



Dr. Jeffrey Ginsberg

Professor, Department of Medicine, McMaster University

Dr. Ginsberg is Director of the Clinical Thromboembolism Program and a hematologist with research training in clinical and laboratory aspects of thrombosis. His current research interests include the clinical development of novel antithrombotic agents, the diagnosis and management of thrombosis during pregnancy, the prevention and treatment of the post-phlebotic syndrome, the investigation of the clinical complications of antiphospholipid antibodies and the diagnosis, prevention and treatment of venous thrombosis and pulmonary embolism.



Dr. Jack Gaudie

Professor and Chair, Department of Pathology and Molecular Medicine, McMaster University

Dr. Gaudie is internationally recognized for his work in defining the molecular regulation of the acute phase inflammatory response and is a world expert in the areas of cytokine biology and molecular regulation of inflammation and immunity. He holds patents in immune regulation and vaccine development.

**Dr. Frank Graham**

Professor, Department of Biology and Pathology and Molecular Medicine, McMaster University

Dr. Graham is one of the world's most accomplished researchers in the field of molecular virology. He and his group have developed a series of novel Adenovirus vectors and methods for vector construction and gene transfer that have set the standard for developments in this area.

**Dr. Carl Richards**

Professor, Department of Pathology and Molecular Medicine, McMaster University

His research focuses on the regulation of chronic inflammation in the joints as well as the pathogenic mechanisms of other conditions including osteoarthritis and osteoporosis. This is an important area because arthritis is the most common cause of long-term disability.

**Dr. Ken Rosenthal**

Professor, Department of Pathology and Molecular Medicine, McMaster University

This researcher has developed a promising AIDS vaccine that may some day be given as nose drops or a nasal spray. Instead of an injectable vaccine that helps the immune system fight off infection, his vaccine induces immunity at the mucous membranes of the body, the linings of the genital tract, lungs and intestines.

**Dr. Mark Levine**

Professor, Department of Clinical Epidemiology & Biostatistics and Medicine

Buffett Taylor Chair in Breast Cancer Research, McMaster University

Dr. Levine is a medical oncologist at the Hamilton Regional Cancer Centre and Director of the Clinical Trials Methodology Group of the Henderson Research Centre. He has been an active clinical investigator in the areas of breast cancer, venous thromboembolism, and has conducted research in quality of life and decision-making in breast cancer.

**Dr. Anne Holbrook**

Senior Scientist, Centre for Evaluation of Medicines, St. Joseph's Healthcare

Director, Division of Clinical Pharmacology, Department of Medicine, McMaster University

Dr. Holbrook recently led a \$4 million dollar pilot study examining the impact of electronic medical records (EMR) and computerized decision support on quality of primary care. She currently leads a \$2.6 million project on EMR-based clinical and technical integration of healthcare. She is a consultant in internal medicine and clinical pharmacology, and holds a Canadian Institute for Health Research Career Award.

**Dr. Deborah Cook**

Director of Clinical Effectiveness and Outcomes Research Unit, St. Joseph's Healthcare

St. Joseph's-McMaster University Research Chair in Critical Care Medicine

Professor of Medicine and Clinical Epidemiology and Biostatistics, McMaster University

Dr. Cook has attracted more than \$6 million in research funding, and has lectured around the world. She was the first Canadian to become a consulting editor for the Journal of the American Medical Association. She chairs the Canadian Critical Care Trials Group, a network of critical care practitioners studying how to optimize the care of ICU patients. Recent funding from the Canadian Institute for Health Research will support breakthrough work on blood clots.





Resources

in the City of Hamilton to assist health/biotech companies...

Economic Development Department

The Economic Development Department in the City of Hamilton has a dedicated senior staff person responsible for expanding the growth of a health and biotechnology cluster in Hamilton.

For further information, please contact:

Dorothy Redfearn, M.B.A.
City of Hamilton
Economic Development Department
Tel: 905.546.4475
Fax: 905.546.4107
E-mail: dredfear@city.hamilton.on.ca

Biotech Council

The Economic Development Department is currently initiating discussions about the formation of a Biotech Council. Its purpose will be to provide guidance and direction for the development of a health and biotech cluster in the City of Hamilton. Its members will consist of representatives from the biotechnology academic research community and biotechnology company owners.

Profile of Health and Biotech Companies

The following pages provide a detailed overview of existing companies in the Hamilton region already engaged in the health and biotech products and services sector. This is an emerging centre for biotechnology, situated in one of Canada's best places to do business... Hamilton, Ontario.



Activation Laboratories Ltd.

1336 Sandhill Drive, Ancaster, Ontario L9G 4V5
Tel: 905.648.9611 • Fax: 905.648.9613
Contact: Dr. Eric Hoffman • 905.648.9611
Email: ancaster@actlabs.com • www.actlabs.com

SECTOR: Scientific research and analytical services

BIOTECH EXPERTISE:

Laboratory Services for Pharmaceutical, Environmental,
Forensic, Geochemical and Materials Testing

Activation Laboratories Ltd. (ACTLABS) provides high tech analytical services for the analysis of virtually any metal in biological, pharmaceutical, environmental, mineral exploration, and materials testing samples. The lab is accredited to ISO/IEC 17025 world standards for specific registered tests. Analytical techniques offered include inductively coupled plasma mass spectrometry (ICP/MS), inductively coupled plasma emission spectrometry (ICP), neutron activation (INAA), LECO IR, ion chromatography (IC), X-ray fluorescence (XRF), capillary electrophoresis (CE), gas chromatograph-mass spectrometry (GC-MS), X-ray diffraction (XRD) and physical testing techniques.

Actlabs has clients in over 60 countries, which are serviced by its primary lab in Ancaster, and affiliates in Perth, Australia; Tucson, Arizona; and Lima, Peru. A vigorous R & D program has led to the development of new services such as metal speciation by CE-ICP/MS, a forensic service, selective extraction for mineral and petroleum exploration, a soil gas hydrocarbon technique for mineral and petroleum exploration and geochronology and isotopic analyses for age dating and tracer studies.



Advanced Orthodynamics Inc.

235 Locke Street South, Suite 1, Hamilton, Ontario L8P 4B8
Tel: 905.527.1225 • Fax: 905.527.1745
Contact: Carolyn Trickey-Baity
Email: admin@advancedortho.ca • www.advancedortho.ca

SECTOR: Pharmaceutical and Medicine Manufacturing

BIOTECH EXPERTISE:

Experts in the field of manufacturing and fitting custom
braces and foot orthotics

Advanced Orthodynamics assesses, manufactures, fits and provides orthotic management services for patients requiring custom braces (orthoses) and foot orthotics.

As Certified Orthotists, the Canadian Orthopaedic Association, the Canadian Medical Association, the Canadian Association of Physical Medicine and the Ontario Ministry of Health, Assistive Devices Program all consider the staff expert in the field of manufacturing and fitting custom braces and foot orthotics. The company also provides some off-the-shelf products as well as orthopedic and custom shoes, as prescribed by the referred physician. It provides customized and personal service to its patients, who are assessed by a Certified Orthotist, who oversees the manufacture of the device, and fits the device to the patient.

According to patient surveys, 83.6% state their device has really helped them to move better; 76.1% say they experience much less pain moving with their devices than without; 97% say that the company takes the time to find out about their needs before recommending orthotic management.

The company enjoys its location in Hamilton due to the accessibility to customers, proximity to other health facilities and the city's quality of life.

Consulting



Biology



Chemistry



Analytical Services



Research Services



Drug Development



Manufacturing





Affinity Biologicals
INCORPORATED

Affinity Biologicals Inc.

1395 Sandhill Drive, Ancaster, Ontario L9G 4V5
Tel: 905.304.9896 • Fax: 905.304.9897
Contact: Patty Hoogendoorn
Email: patty@affinitybiologicals.com • www.affinitybiologicals.com

SECTOR: Medical Research

BIOTECH EXPERTISE:

Antibodies and Plasmas for Research and Diagnostics

Affinity Biologicals Inc. is a primary manufacturer of antibodies and antibody related products for use in thrombosis and haemostasis research as well as medical diagnostics manufacturing. The company specializes in antibody production, protein purification, assay development and the production of coagulation factor immune depleted plasmas.

It is currently developing a line of diagnostic kits for use in the study of haemostasis and thrombosis and is also involved in Research and Development services pertaining to assay development. It is an ISO 9001 registered company committed to quality. Its global customers are primarily academic and pharmaceutical researchers as well as diagnostics manufacturers. Approximately 75% of their product is exported through a network of distributors in the US, Australia, United Kingdom, Benelux, Italy, Germany, Denmark, Sweden and Japan. Affinity Biologicals' market share has increased steadily due to superior product quality and technical support. Proximity to the US border and highway access is important to the company. Its employees enjoy the quality of life in Hamilton and the Ancaster Business Park is a positive benefit to them. The company is on the lookout for enabling technologies and alliances and partnerships as well as the commercialization of basic research, plus greater exposure in the US market to fuel its future expansion efforts.



Agnew Technologies Inc.

320 Mountsberg Rd., P.O. Box 428, Campbellville, Ontario L0P 1B0
Tel: 905.659.0429 • Fax: 905.659.0474
Contact: Edward Agnew • edward@agnew-tech.com
Email: sales@agnew-tech.com • www.agnew-tech.com

SECTOR: Management, scientific and technical consulting services

BIOTECH EXPERTISE:

Electronic Engineering and development of various devices and systems

The company, founded in 1977, is a group of electronic Engineers with skills in the Digital, Analog, RF and Software design. The company also provides electronic and software design/development and testing including sensor, telemetry, metering, measurement, intelligent control and general design of health related products; electro magnetic compatibility testing; evaluation of existing products; review and redesign of older designs; and reverse-engineering of existing devices. The company has many years of experience, as well as a well-equipped lab and machine shop. Agnew Technologies' main customers are smaller companies who lack the engineering skills to bring their ideas or products into a workable manufacturable state. Hamilton is an important location for the company due to its convenient accessibility to customers and its high quality of life.



Antimicrobial Research Centre

McMaster University, Department of Biochemistry, Health Sciences Centre, Room 4N59
1200 Main Street West, Hamilton, Ontario L8N 3Z5
Tel: 905.525.9140 • Fax: 905.522.9033
Contact: Lisa Kush • 905.525.9140 ext.22064
Email: kushl@mcmaster.ca • www.fhs.mcmaster.ca/arc

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research on Antimicrobial Diseases

The Antimicrobial Research Centre is conducting research on antimicrobial diseases by bringing together a broad spectrum of interests. The strengths of this group include research into the enzymology and structural biology of antibiotic resistance factors, the discovery of novel drug targets and the molecular genetics of antibiotic producing microorganisms. More clinically oriented research is aimed at novel diagnosis strategies and the epidemiology and treatment of bacterial infections in the hospital and the community.

CANREG INC.



CanReg Inc.

4 Innovation Drive, Dundas/Hamilton, Ontario L9H 7P3
Tel: 905.689.3980 • Fax: 905.689.1465
Contact: Mark Mindorff, Business Development
Email: mmindorff@canreg.ca • www.canreg.ca

SECTOR: Management, Scientific and Technical Consulting Services

BIOTECH EXPERTISE:

Regulatory Consulting Services to Pharmaceutical, Biotech and Medical Device Companies

CanReg is Canada's largest and fastest growing regulatory affairs consulting firm, providing regulatory consulting services to over a hundred start-up and multinational pharmaceutical, biotech and medical device companies in Canada and around the world. Founded in 1996 by Ann Tomalin, CanReg is a unique Hamilton-based company experiencing a phenomenal 10-fold growth rate over the past 5 years. CanReg's success is a reflection of its world-class regulatory management strategies. Whether it's a comprehensive program for a new product or an ongoing monitoring and maintenance activity, the result is usually a significant reduction in the time and effort required to win and sustain approval for health products worldwide. That's why CanReg clients enjoy a strong competitive advantage in today's fast moving marketplace. Its clients are 50% Canadian, 30% US and 20% international.

CanReg is also involved in joint projects with technology companies (XML, PDF and ebusiness companies) and other offshore consultancies for international work. Its Hamilton location is ideal due to the proximity to both the university and other health facilities. The company finds Hamilton to be a great place to live and work as well as offering proximity to the US.

CanReg will continue to grow due to the expansion in pharmaceuticals as a result of the aging population. The company is positioned to take advantage of outsourcing activities of the major drug manufacturers world-wide and expects to continue to grow at its present annual average of 157%.



Centre for Evaluation of Medicines

105 Main Street East, Level P1, Hamilton, Ontario L8N 1G6
Tel: 905.522.1155 ext. 4277 • Fax: 905.528.7386
Contact: Ms. Ruthanne Cameron, Administrative Manager
Email: camerra@mcmaster.ca • www.thecem.net

SECTOR: Research Centre

BIOTECH EXPERTISE:

Expertise in evaluation, policy planning and interventions and research methodology

CEM turns research into action for optimal treatment by providing expertise in clinical pharmacology and toxicology, economics, health policies, behavioural sciences, information technology, research design and biostatistics. CEM members provide expertise in evaluation, policy planning and interventions and research methodology. CEM is also an education centre for post-professional and postgraduate students and provides educational and research opportunities for undergraduate and graduate students.

Its customers include academic and health care institutions, governments, as well as private industry. The Centre receives its funding from three distinct sources: university/academic institutions, governments and the private sector. This funding mix ensures that CEM is an impartial arbiter of important therapeutic and policy issues.

CEM is engaged in joint ventures with technology design firms, pharmaceutical companies, the Ministry of Health, and Health Canada.

Hamilton is its preferred location due to the availability of skilled labour, accessibility to other companies in the sector as well as its proximity to the university and other health facilities. To ensure its future growth, CEM requires dollars for infrastructure funding to allow for increased support for additional projects, space and human resources.



Centre for Gene Therapeutics

Faculty of Health Sciences, McMaster University, HSC Room 2N16, 1200 Main Street West, Hamilton, Ontario L8N 3Z5
Tel: 905.521.2100 ext. 76332 • Fax: 905.577.0198
Contact: Dr. Jack Gauldie, Dr. Frank Graham, Co-directors
Email: gauldie@mcmaster.ca • www.fhs.mcmaster.ca/egt

SECTOR: Medical Research

BIOTECH EXPERTISE:

Creation and Implementation of Gene Therapies

The mission of the Centre for Gene Therapeutics is to investigate, create, and implement approaches utilizing the delivery of genes as therapeutic agents in the treatment of human and animal disease. This entails basic investigations to target gene product development, the creation of vector systems for appropriate delivery of therapeutic genes, and the rapid translation of promising medicines to the clinical setting. The Centre is focused on developing novel cures for cancer, inflammatory diseases, and infectious diseases using state-of-the-art gene transfer technology coupled with the most recent information derived from the application of genomics. The Centre has assembled a group of world-class scientists and clinicians to carry out this important research work and is linked to the National Centre of Excellence in Vaccine and Immunotherapy (CANVAC).



Centre for Minimal Access Surgery

St. Joseph's Healthcare, 50 Charlton Avenue East, Hamilton, Ontario L8N 4A6

Tel: 905.522.1155 • Fax: 905.521.6194

Contact: Tricia Rickwood, Manager • 905.522.1155 ext.3584

Email: rickwood@emas.ca • www.emas.ca

SECTOR: Medical Research

BIOTECH EXPERTISE:

Development of and training in new minimally invasive surgical techniques and diagnostics

The Centre for Minimal Access Surgery (CMAS) provides state-of-the-art facilities, education and training in minimally invasive procedures for surgeons and nurses. CMAS has developed a unique partnership with industry to further the development and application of minimally invasive surgical techniques. Affiliated with McMaster University's Faculty of Health Sciences, this multidisciplinary Centre studies, develops, evaluates and provides training in new techniques in minimally invasive surgery and diagnostics. A telerobotic surgery initiative is currently being launched in partnership with the federal government. The Centre's facilities include a prototype surgical robot and an integrated video-conferencing system with rapid transfer of surgical proceedings from the operating room to classrooms and to off-site locations.



Centre for the Study of Children at Risk

McMaster University, Faculty of Health Sciences, 1200 Main Street West, Hamilton, Ontario L8N 3Z5

Tel: 905.521.2100

Contact: Yvonne Racine

Email: raciney@mcmaster.ca • www.fhs.mcmaster.ca/eser

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research in the Emotional and Behavioural Health of Children

This Centre was established to foster research in the area of emotional and behavioural problems, which contribute to the lowering of life quality and life chances for Canadian children. It is committed to increasing scientific knowledge about the range of influences on children's emotional and behavioural development and to determine which programs are most effective in improving children's mental health, overall functioning and future life prospects. This information is useful to decision-makers in formulating and implementing the best policies for improving children's mental health.



Clinical Trials Methodology Group (CTMG)

Henderson Research Centre, 711 Concession St., Hamilton, Ontario L8V 1C3

Tel: 905.527.2299 ext 42603

Contact: Dr. Mark Levine, Director

Email: mlevine@mcmaster.ca • www.mcmaster.ca

SECTOR: Medical Research

BIOTECH EXPERTISE:

Evaluation of therapies (e.g. drugs, radiation treatment) through clinical trials

CTMG evaluates treatments that improve patient care through the conduct of clinical trials. It is located within the Henderson Research Centre and is affiliated with the Department of Clinical Epidemiology & Biostatistics, McMaster and the Hamilton Regional Cancer Centre. The group – consisting of methodologists, statisticians, clinical researchers and research staff – carries out trials in patients with cardiovascular disease, venous thromboembolic disease and cancer. CTMG has engaged in trials with pharmaceutical companies that have led to the registration of new drugs with government regulatory agencies such as the Health Protection Branch in Canada and the FDA in the United States. Some trials are also supported by agencies such as the Canadian Institutes for Health Research, the National Cancer Institute of Canada, the Heart and Stroke Foundation, and Cancer Care Ontario.

Canadian
Pari-Mutuel
Agency



L'agence
canadienne du
pari mutuel



Equine Centre, Canadian Pari-Mutuel Agency

115 Sunnyridge Rd., Jerseyville, Ontario L0R 1R0

Tel: 905.648.3033 • Fax: 905.648.8425

Contact: Norma Frandsen

Email: nfrandsn@cm.agr.ca • www.epma-acpm.ca

SECTOR: Scientific Research and Development Services

BIOTECH EXPERTISE:

Analytical Methods for the Detection of Drugs in the Race Horse

The Equine Centre conducts research to improve analytical methods for the detection of drugs in the racehorse. They also provide data to assist in regulatory and policy changes. In addition, they provide a schedule of drugs and information for veterinarians, trainers and others who require guidelines on medicating horses. The Centre promotes good and safe practices in medicating racehorses. The company employs a veterinarian and trained veterinary horsemen.



Father Sean O'Sullivan Research Centre

St. Joseph's Healthcare, 50 Charlton Avenue East, Hamilton, Ontario L8N 4A6
Tel: 905.522.1155 • Fax: 905.521.6136
Contact: Dr. Stuart MacLeod, Director
Email: smacleod@email.stjosham.on.ca • www.stjosham.on.ca/fsorc/default.htm

SECTOR: Medical Research

BIOTECH EXPERTISE:

Molecular and Clinical Effectiveness Research

Established in 1993 by St. Joseph's Healthcare, the Father Sean O'Sullivan Research Centre has developed world class research programs in chest and lung, optimal drug therapy, musculoskeletal, surgical outcomes, geriatrics, critical care and mental health. The strength of the Centre is its balance between the molecular fields such as respirology, neurobiology, and virology with clinical research in nursing, surgery, obstetrics, psychiatry, rheumatology, and cardiology. The foundation for its demonstrated excellence is its team of world-class scientists and their commitment to research that makes a difference in clinical effectiveness.



Foresight Links Corporation



Foresight Links Corporation

39 Cross Street, Dundas, Ontario L9H 2R5
Tel: 905.628.5639 • Fax: 905.628.5822
Contact: Martha Garcia • marthagarcia1@home.com
Email: info@foresightlinks.com • www.foresightlinks.com

SECTOR: Management, Scientific and Technical Consulting Services

BIOTECH EXPERTISE:

Specialized Knowledge of the Health Care Information Field

Foresight Links provides consulting expertise to guide research, development and marketing decision-making to companies in the health care field. To achieve this goal, it applies the principles and tools of evidence-based decision-making to ensure that decisions by clients are supported by an objective assessment of the best available knowledge.

The company also provides tailored, virtual and face-to-face educational programs to increase the skills of knowledge workers to identify, appraise and apply health information efficiently. Foresight is also developing virtual coaching systems to train health care consumers and providers and enhance their interactions. The company uses electronic publishing, videoconferencing and seminars as additional tools to provide their services. Its customers include law firms, governments, pharmaceutical and insurance companies and health care organizations.

Foresight Links Corporation focuses on all types of health-related issues, including complementary and alternative medicine. The company finds Hamilton an attractive location due to the availability of skilled labour, proximity to the university, geographic location and the local quality of life.

Hamilton & District Urology Association

Medical Arts Building, 1 Young Street, Suite 419, Hamilton, Ontario L8N 1T8
Tel: 905.522.4528 • Fax: 905.628.5822
Contact: Linda Hager
Email: hagerlinda@look.ca

SECTOR: Scientific Research and Development Services

BIOTECH EXPERTISE:

Clinical Research for Drug Companies

Hamilton Urology does clinical research for drug companies specializing in Urology. It is a not-for-profit research group, which has 16 supporting doctors. The company's main customers are pharmaceutical companies worldwide. The company expects to double its volume of clinical research over the next years, but needs to form alliances and partnerships and to commercialize its basic research. The company's Hamilton location is key due to the proximity to university and to other health facilities as well as accessibility to customers and other companies in the same sector.



Hamilton Health Sciences
EXEMPLARY CARE • ACADEMIC EXCELLENCE

Hamilton Health Sciences Research Office

711 Concession Street, Hamilton, Ontario L8V 1G3
Tel: 905.527.4322 ext. 43828 • Fax: 905.389.4938
Contact: Dr. Suzette Salama
Email: salamsuz@hhsc.ca • www.hhsc.ca

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research in Thrombosis, Atherosclerosis, and Cardiovascular Disease

The HHSC Research Office is a resource for staff for all research-related issues. Staff are encouraged to contact the office if they require assistance with a research idea, project, protocol or application. The HHSC Research Office promotes, fosters and mentors staff through the various training and education programs offered to facilitate research. The following is a list of these programs:

- Research Development Fund (RDF)
- Interdisciplinary Clinical Research Committee
- Research Ethics Board Administration
- Monthly Discussion Groups with Dr. J. Hirsh
- Research Educational Workshops
- Biennial Research Report
- Quarterly Research Newsletter
- One-on-one Research Consultations
- Monthly Statistical Consultations
- Public Community Forums
- Poster Exhibits
- Educational/Fund-Raising Initiatives for the RDF:
 - Preceptorship Program for Pharmaceutical Reps
 - Annual Research Gala
 - Clinical Trial Research Co-ord (CTRC) Certification Course
 - Clinical Research Associate (CRA) Certification Course



Hamilton Regional Cancer Centre

699 Concession St., Hamilton, Ontario L8V 5C2
Tel: 905.387.9495 • Fax: 905.575.6323
Contact: Dr. George Browman
Email: george.browman@hrcc.on.ca • www.hrcc.on.ca

SECTOR: Medical Research

BIOTECH EXPERTISE:

Cancer Research – Experimental therapeutics and translational research

The Hamilton Regional Cancer Centre (HRCC) is a regional cancer centre of Cancer Care Ontario, serving 2.2 million people in Central West Ontario. It is a fully academic facility affiliated with McMaster University and with all local teaching hospitals. Its mandate is clinical service delivery, research, education and training. HRCC is an internationally recognized leader in clinical research and evidence-based cancer care. It has an active research program in experimental therapeutics and translational research, bridging the laboratory and the clinic. The Centre has an active Clinical Trials Department with substantial ties to industry in clinical trials involving new agents including biological agents, new technologies and testing of novel molecules that target cancer cells. HRCC is part of the U.S. National Cancer Institute consortium for the clinical testing of new anti-cancer agents. Research is also being conducted on new communications technologies and their use by physicians and patients to improve care.



Health Utilities Inc.

88 Sydenham Street, Dundas, Ontario L9H 2V3
Tel: 905.525.9140, ext 22389 • Fax: 905.627.7914
Contact: Bill Furlong
Email: furlongb@mcmaster.ca • www.healthutilities.com

SECTOR: Pharma & Medicine

BIOTECH EXPERTISE:

Development and distribution of instrumentation for evaluating pharmaceutical, medical devices, and other health care services

Health Utilities Inc. specializes in the development and distribution of instrumentation for evaluating pharmaceutical, medical devices, and other health care services. Its products help to measure health status and health-related quality of life. Its services include developing and distributing high-quality instrumentation for measuring health status and health-related quality of life for clinical, general population and economic evaluation studies to pharmaceutical and medical device companies, governmental agencies, hospitals, consulting research organizations, non-profit organizations and academic researchers. Hamilton is an attractive location for the company due to the availability of skilled labour and appropriate space, as well as proximity to the university and other health facilities. Health Utilities Inc. needs enabling technology to commercialize its basic research, and it needs beneficial alliances and partnerships to ensure its future growth. In addition, it needs access to information about web-based technology for collecting, coding and distributing questionnaire data.

Hear Saver Limited, a division of Niagara Pharmaceuticals

60 Innovation Dr., Flamborough, Ontario L9H 7P3

Tel: 905.690.6277 • Fax: 905.690.6281

Contact: Cvetka Veg. administration • 905.690.6277 ext.27 • admin@niagarapharmaceuticals.com

Email: custsvc@niagarapharmaceuticals.com • www.hearsaver.com

SECTOR: Pharmaceutical and Medicine Manufacturing

BIOTECH EXPERTISE:

Ophthalmic solutions including eyewash, fogex, disinfectant, earplugs, nose plugs

Hear Saver, the health and safety products division of Niagara Pharmaceuticals, manufactures safety products for all industries. Hear Saver, a private label manufacturer, makes a range of products for use in dairies, farms, hospitals, medical facilities and industrial locations. These products include eyewash, eye and skin solutions, lens cleaning solutions, disinfectant, chemical burn solutions, and antiseptic cleaners. It uses a network of distributors to sell its products around the world.

Hamilton was chosen as the company's location due to its close proximity to Toronto airport and the availability of the appropriate industrial space.



Hamilton Health Sciences

EXEMPLARY CARE • ACADEMIC EXCELLENCE

Hemostasis Reference Laboratory

Henderson Research Centre, 711 Concession Street, Hamilton, Ontario L8V 1C3

Tel: 905.527.2299, ext. 42667 • Fax: 905.575.2647

Contact: Marilyn Johnston • 905.527.2299 ext.42667

Email: hrl@hemostasislabs.com • www.hemostasislabs.com

SECTOR: Medical and Diagnostic Labs

BIOTECH EXPERTISE:

Expertise in the measurement of blood coagulation and fibrinolytic factors in human and animal species

Hemostasis Reference Laboratory (HRL) has extensive expertise in the measurement of blood coagulation and fibrinolytic factors in human and animal species, and has recently added cytokine testing to the available menu. HRL has an international reputation for excellence in hemostasis testing, and meets the needs for reliable results backed by professional and clinical expertise. Procedures include immunological, chromogenic, clotting, and PCR assays. The organization has been awarded an accreditation with distinction by the College of American Pathologists (CAP). Its customers include medical researchers, clinicians, referral laboratories and organizations, pharmaceutical companies, clinical trial organizations, manufacturers of laboratory hemostasis products, hemostasis instrument manufacturers (including point-of-care), and veterinarians.

HRL is ideally located in the centre of the Hamilton health care system, which is considered a world leader in the research and treatment of thrombosis.



Hamilton Health Sciences
PATIENT CARE • ACADEMIC EXCELLENCE

Henderson Research Centre

711 Concession Street, Hamilton, Ontario L8V 1G3
Tel: 905.527.2299 ext. 42600 • Fax: 905.575.2646
Contact: Alice Bradbury, Administrator • 905.527.2299 ext. 42601
Email: abradbury@thrombosis.hhsr.org or bradbury@hhsc.ca • <http://fhs.mcmaster.ca/cgt>

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research in Thrombosis, Atherosclerosis, and Cardiovascular Disease

The research objectives of this Centre are to carry out basic, clinical and epidemiologic research in thrombosis, atherosclerosis and cardiovascular disease. The scope of the research is broad, extending from the basic laboratory to the bedside and beyond into local, national and international communities. It is driven by the desire to address clinically relevant problems, because solutions have the potential to improve patient care and the health of populations. Its multidisciplinary scientific and clinical team has already made significant contributions to the treatment of blood clots, cardiovascular disease, stroke and cancer.



High Throughput Screening Laboratory

Department of Biochemistry, McMaster University, Health Sciences Centre, Room 4N45B
1200 Main Street West, Hamilton, Ontario L8N 3Z5
Tel: 905.525.9140 ext. 22279 • Fax: 905.522.9033
Contact: Rebecca Hartlen, Laboratory Manager
Email: hartler@mcmaster.ca • <http://hts.mcmaster.ca>

SECTOR: Medical Research

BIOTECH EXPERTISE:

Assay development and biomolecular screening

The McMaster HTS Lab is a three-way partnership among the Ontario Research and Development Challenge Fund, McMaster University and the private sector and has been fully operational since the early fall of 2001. With a mandate to provide excellence and innovation in biomolecular screening, the lab has been designed to be highly flexible in order to meet the needs of multiple users wishing to evaluate a variety of assays. The McMaster HTS Lab is a unique resource as it is the first HTS lab in an academic setting in Canada, and one of only a few in North America. As such, the lab is used by McMaster scientists as well as by external scientists from both academia and industry through collaborative and contract research agreements. The McMaster HTS Lab constantly seeks opportunities to form new partnerships with both public and private sector parties.



ICE BIOTECH INC.

7 Innovation Drive Suite 160, Flamborough, Ontario L9H 7H9
Tel: 905.690.4663 • Fax: 905.690.4684
Contact: Oscar Cheng, CGA • chengo@icebiotech.com
Email: info@icebiotech.com • www.icebiotech.com

SECTOR: Scientific Research and Development Services

BIOTECH EXPERTISE:

Manufacturer of Plant Antifreeze Proteins

Ice Biotech is a company that specializes in cold tolerance technology in agriculture. It offers services in ice modification for food, agriculture, forestry and cryopreservation. Its main expertise lies in the manufacture of plant antifreeze proteins, including mechanisms of freezing tolerance, plant transformation and plant molecular genetics. Its customers are global frozen food manufacturers. The company has a highly educated staff including two PhDs, three MScs and four BScs.

INNOVUS

Innovus Research Inc.

1016 Sutton Drive, Burlington, Ontario L7L 6B8
Tel: 905.331.9911 • Fax: 905.331.9912
Contact: Jackie Gladman
Email: jgladman@innovus.com • www.innovus.com

SECTOR: Scientific and Medical Research

BIOTECH EXPERTISE:

Contract Research Services to the Pharmaceutical,
Biotechnology and Medical Device Industries

Since 1984 INNOVUS has grown to become one of the preeminent clinical, health economic and outcomes research organizations with offices in Canada, the US and Europe. Its team of over 80 employees in Canada positions INNOVUS to meet the ever-changing and challenging research needs of its customers in today's marketplace.

INNOVUS adds value to the research conducted for its pharmaceutical, medical device and biotechnology customers through innovation, excellence and an uncompromising dedication to customer satisfaction. Its dedicated team of specialists, led by internationally renowned experts and researchers, has always been on the forefront of methodology and research implementation. This allows the company to provide high quality services to its customers within the Canadian research community.

INNOVUS has expertise in all major therapeutic areas including cardiology, endocrinology, gastroenterology, immunology, neurology, oncology, respiratory, and urology.

MBI Fermentas **Fermentas**



MBI Fermentas Inc.

830 Harrington Court, Burlington, Ontario L7N 3N4
Tel: 905.333.8355 • Fax: 905.472.8322
Contact: Dr. Andrew Cerskus • info@fermentas.com
Email: Bahr@fermentas.com • www.fermentas.com

SECTOR: Manufacturing

BIOTECH EXPERTISE:

Manufacturing and marketing molecular biology products

Fermentas is an ISO9002 certified biotechnology company manufacturing and marketing molecular biology products under the MBI Fermentas brand name via its world-wide distributor network. The company's services include the preparation of ULTRA pure plasmid DNA, certificates of analysis describing product properties, quality control assay data, and recommendations for use. MBI Fermentas has affiliates in the U.S., Germany, Lithuania plus a network of distributors around the world.

Ontario Isotopes Inc.



7 Innovation Drive, Flamborough, Ontario L9H 7H9
Tel: 905.689.5990 • Fax: 905.689.0855
Contact: Adam Dodd • isotopes@on.aihb.com
Email: info@isotopes.ca • www.isotopes.ca

SECTOR: Scientific Research and Development Services

BIOTECH EXPERTISE:

The synthesis, modification and analysis (quality control) of radioisotope labeled compounds

Ontario Isotopes is a distributor of radioisotope labeled compounds and antibodies, and consultants in their use. It specializes in synthesis, modification and analysis including quality control of radioisotope labeled compounds and antibodies. Its customers include universities, hospitals and government laboratories. The company is one hundred percent Canadian owned. The company is small, but has the best technical support for customers. In order to succeed and for future growth, Ontario Isotopes needs to form some alliances and partnerships. The Hamilton area is attractive to the company due to the accessibility to customers and the availability of appropriate space.



Policy Planning Plus Inc.

112 Amelia Street, Hamilton, Ontario L8P 2V5
Tel: 905.525.7845 • Fax: 905.525.6634
Contact: Kevin Marron • marron@policyplanning.com
Email: admin@policyplanning.com • www.policyplanning.com

SECTOR: Management, scientific and technical consulting services

BIOTECH EXPERTISE:

Management consulting services and project management to organizations in the field of health and social services

Policy Planning Plus provides management consulting services and project management to organizations in the field of health and social services. The organization offers health and social service organizations expert assistance in evaluating programs, implementing policies and managing change.

The company enjoys its Hamilton location due to the accessibility to customers, the availability of appropriate space as well as the Hamilton lifestyle and quality of life.

The Brain-Body Institute

St. Joseph's Healthcare, 50 Charlton Avenue East, Hamilton, Ontario L8N 4A6

Tel: 905.522.1155 • Fax: 905.522.4936

Contact: Dr. John Bienenstock, Director

Email: bienens@memaster.ca • www.stjosham.on.ca/bbi/index.htm

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research on the relationship between the brain, nervous system and bodily disorders, specifically somatic diseases

The BBI was created to advance the understanding of the relations between the brain, nervous system and bodily disorders. It promotes a transdisciplinary model for the comprehensive understanding of the factors involved in mental and somatic diseases by conducting parallel laboratory and clinical studies, with a plan to move to the forefront in the study of stress-related illnesses. There is the additional focus of informing disciplines such as psychiatry, respirology, gastroenterology and cardiovascular disease, where a role for stress is already broadly recognized. The BBI is developing an Imaging Research Centre, which will house a prototype PET scanner with a 50 cm. field of view and a 3 tesla functional MRI. This equipment allows research on the metabolic activity of the brain, and the fine structures of the brain and the body.

The Firestone Institute for Respiratory Health

St. Joseph's Healthcare, 50 Charlton Avenue East, Hamilton, Ontario L8N 4A6

Tel: 905.522.1155 • Fax: 905.521.6183 / 905.521.6125

Contact: Dwayne Martins, Manager, Research and Administration • 905.522.1155 ext.3140

Email: dmartins@email.stjosham.on.ca • www.stjosham.on.ca/firestone/index.htm

SECTOR: Medical Research

BIOTECH EXPERTISE:

Research in Respiratory Diseases

The Firestone Institute for Respiratory Health is a part of the Father Sean O'Sullivan Research Centre at St. Joseph's Healthcare. For more than 25 years, the Institute has conducted leading edge research into lung disease, asthma, and innovative treatments with aerosol medications. Most recently, its investigators have developed new ways of diagnosing and monitoring asthma through sputum analysis.

This breakthrough will improve treatment and spare patients from the discomfort and risks of more invasive procedures.



Unison BioTek

811-981 Main Street West, Hamilton, Ontario L8S 1A8
Tel: 905.526.0328 • Fax: 905.526.9831
Contact: Armana Ishaque
Email: aishaque@sympatico.ca

SECTOR: Pharmaceutical and Medicine Manufacturing

BIOTECH EXPERTISE:

Biochemical, Antibody and Lab Supplies Distributor

Unison Biotek distributes biochemical reagents, antibodies and lab supplies. The company promotes its products by distributing its catalogue in research institutes, teaching hospitals and universities. The company provides reasonably priced top quality reagents and lab supplies.



WynnTech, Inc.

25 Charlton Avenue East, Suite #203, Hamilton, Ontario L8N 1Y2
Tel: 905.525.5518 • Fax: 905.523.6168
Contact: Tammy Hummel, CMLT, Research Co-ordinator to Dr. W. G. Bensen
Email: bensenresreh@acncanada.net

SECTOR: Scientific Research and Development Services

BIOTECH EXPERTISE:

Clinical research trials in rheumatology

WynnTech conducts clinical research trials in rheumatology, developing cutting edge and innovative treatment options to offer the best therapy possible to patients. The company also offers education to medical students and laboratory services. WynnTech currently employs 7 research nurses with backgrounds in Science, 2 support staff, 2 laboratory technicians able to carry out phlebotomy, ECG's, specimen handling, etc., and an administrator with 10 years experience in clinical trials including respiratory medicine and rheumatology. The owner of the company, Dr. Bensen, has more than 20 years in clinical trial research combined with a keen interest in rheumatoid arthritis, osteoarthritis and osteoporosis. The company's customers are the pharmaceutical industry worldwide. WynnTech has been the top site enroller in a number of studies on an international level and is recognized as a leader in Rheumatology Research. It is affiliated with St. Joseph's Healthcare and McMaster University.

Its hopes for the future include doubling in size and still maintaining the same level of excellence in research, development and education. In order to achieve its growth goals, the company needs enabling technologies, alliances and partnerships, technology transfer and the commercialization of basic research.

Financial Services

Everything Hamilton has to offer...

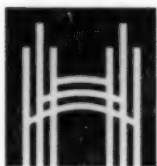
Financial Institutions	
Business Development Bank of Canada (BDC Venture Capital) 150 King St. West, Suite 1100 Toronto, Ontario M5H 1J9 Tel: 416.954.9861 Fax: 416.973.5529 Web: www.bdc.ca/venturecapital Contacts: Jim Orgill, jim.orgill@bdc.ca	The Business, Engineering, Science and Technology Discoveries Fund (The B.E.S.T. Fund) 65 Queen Street West, Suite 510 P.O. Box 90 Toronto, Ontario M5H 2M5 Tel: 416.214.4616 or 800.795.BEST Fax: 416.366.5390 Web: www.besteapital.ca E-mail: info@besteapital.ca Contacts: John Richardson, Alan Huycke
Canadian Medical Discoveries Fund Talbot Centre, 148 Fullarton Street, Suite 2006 London, Ontario N6A 5P3 Tel: 519.858.1582 or 800.268.8258 Fax: 519.858.9121 Web: www.cmdf.com E-mail: information@cmdf.com Contacts: Nancy Johnstone (MDS Capital Corp.) 416.213.4695, njohnstone@mdsintl.com	CIBC Capital Partners BCE Place, 161 Bay Street, Box 500 Toronto, Ontario M5J 2S8 Tel: 416.594.7443 Fax: 416.594.8037 Contacts: Ken Kilgour, Teddy Rosenberg
IPS Industrial Promotion Services Limited Suite 720, 60 Columbia Way Markham, Ontario L3R 0C9 Tel: 905.475.9400 Fax: 905.475.5003 E-mail: ipscanada@ica.net Contacts: Nizar Alibhai, Shamsh Dhala, Azim Lalani	MDS Capital Corp. 100 International Boulevard Toronto, Ontario M9W 6J6 Tel: 416.675.7661 Fax: 416.213.4232 Web: www.mdsintl.com E-mail: info@mdsintl.com Contacts: Eric Frederickson, Director of Investor Relations
MM Venture Partners 95 Wellington St. W., 22nd Floor Toronto, Ontario M5J 2N7 Tel: 416.977.9718 Fax: 416.591.1393 Web: www.mmvp.com Contacts: Ron Patterson	Venture Capital Group, Ontario Teachers' Pension Plan Board 5650 Yonge Street Toronto, Ontario M2M 4H5 Tel: 416.228.5900 Fax: 416.730.5349 Web: www.otpp.com/web/website.nsf/web/venturecapital Contacts: Rosemary Zigrissi, Intiaz Khan, Terry Woodward, Ian Ca
RBC Capital Partners Royal Bank Plaza, 200 Bay Street 4th floor, North Tower P.O. Box 50 Toronto, Ontario M5J 2W7 Tel: 416.842.4077 Fax: 416.842.4060 Web: www.rbcap.com E-mail: rbcpact@rbcds.com Contacts: Judy Blumstock	Tera Capital Corp. 366 Adelaide Street East, Suite 337 Toronto, Ontario M5A 3X9 Tel: 416.368.8372 Fax: 416.368.1427 Web: www.teracap.com E-mail: mailbox@teracap.com Contacts: Duncan Stewart
Skylon Capital Corp. BCE Place, 181 Bay Street, Suite 840 Toronto, Ontario M5J 2T3 Tel: 416.601.2440 or 877.711.2440 Fax: 416.601.2441 Web: www.skylonecapital.com E-mail: info@skylonecapital.com Contacts: Steve Diamond, Susan Coleman, Leon Rudanyecz	

Government

Support Programs for R & D

Biotechnology Commercialization Centre Fund A \$20 million investment over four years to help create regional commercialization centres for start-up biotech firms, and to boost Ontario's competitiveness in the biotechnology industry. Biotechnology incubation centres have been established in Ottawa, Toronto and London. Web: www.est.gov.on.ca/English/st/st_BCCCFoverview.html	Ontario Research and Development Challenge Fund A \$500 million, 10 year program to promote research excellence by increasing the R & D capacity of Ontario universities and other research institutions through private and public sector partnerships. Contributions by partners are expected to bring the total investment in R & D through this fund to \$2.5 billion. Web: www.ontariochallengefund.com
Ontario Innovation Trust A \$750 million program to help fund research equipment and infrastructure at universities, colleges, hospitals and research institutions. Web: www.oit.on.ca/chome.html	Premier's Research Excellence Awards A \$75 million initiative over 10 years to ensure Ontario attracts and retains the pre-eminent researchers it needs to keep the province's research capacity at an international level of excellence. Web: www.est.gov.on.ca/english/st/st_preas.html
Ontario Research Performance Fund More than \$30 million per year to help cover overhead costs for researchers conducting Ontario-funded research. Web: www.est.gov.on.ca	Ontario Genomics Initiative A \$75 million program over five years to boost the province's capability in genomics research. Web: www.est.gov.on.ca
Ontario Cancer Research Network A three-year, \$50 million initiative to accelerate research on promising new cancer therapies. Web: www.est.gov.on.ca	Canadian Institutes of Health Research (CIHR) The premier federal agency has a budget of \$500 million for health research. Its objective is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened health care system. Web: www.cihr.ca
Canadian Foundation for Innovation (CFI) CFI is an independent corporation established by the Government in 1997. Its goal is to strengthen the capability of Canadian universities, colleges, research hospitals and other non-profit organizations to carry out world class research and technology development by investing in infrastructure. Web: www.innovation.ca	Industrial Research Assistance Program (IRAP) This service helps small and medium-sized firms create and adopt innovative technologies by providing or identifying appropriate resources such as partner firms, technical personal and cost shared financing of R&D and technology transfer projects. Web: www.nrc.ca/corporate/english/business/b331.html
Networks of Centres of Excellence About \$47 million a year is used to fund consortia of scientists across Canada who are working in areas of scientific discovery with commercial potential. Web: www.ncec.gc.ca	





Hamilton

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